

REMARKS

The applicant respectfully request reconsideration in view of the amendment and the following remarks. Support for newly added claims 27-29 can be found in claims 11, 22 and 16 respectively. These claims use “consisting essentially of” language which is partially open and partially closed language which would exclude any step or ingredient which would materially effect the claimed invention.

Claim 11, 12, 16, and 19-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Vandenhende et al.,US 2003/0119925 (“Vandenhende”). Claims 13-15, 18, 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vandenhende et al. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vandenhende in view of US 4, 146,499 (Rosano). The applicant respectfully traverses these rejections.

Rejections over Vandenhende

Claim 11, 12, 16, and 19-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Vandenhende. Claims 13-15, 18, 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vandenhende. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vandenhende in view of Rosano.

The Examiner stated at the top of page 5 of the office action,

“Applicant’s claim language does not preclude further steps or further processes.”

Newly added claims 27-29 use “consisting essentially of” language which is partially open and partially closed language which would exclude any step or ingredient which would

materially effect the claimed invention. The applicant believes that these claims are clearly allowable.

The object of the applicant's invention is a process (independent claims 11 and 22) for recovering at least one polymer in solution in a solvent which comprises precipitating by means of a non-solvent introduced gradually into the solution to form the precipitation medium, wherein:

- in the course of the introduction of the non-solvent into the precipitation medium, there is first a phase separation (...) and then there is a phase inversion (...)
- the non-solvent is initially introduced into the precipitation medium in liquid form only (claim 11) (or in liquid form in Claim 22) and in a quantity (Q') which is not zero but is less than the quantity (Q) required to bring about the phase inversion,
- the remaining quantity of non-solvent is subsequently introduced into the precipitation medium as a flow in which the vapour fraction is predominant, and
- when a phase separation agent is used in the precipitation medium, the solution of polymer to be precipitated is substantially free of this phase separation agent at the time of phase inversion.

The phrases which are underlined above in this text are particularly important to understand the object of this invention.

Comments about Vandenhende in view of the previously introduced limitation

On page 9, lines 2-9 of the applicant's specification, indicate that the Applicant has found that the presence of a phase separation agent in the precipitation medium, as recommended in

Vandenhende, at the time of phase inversion and thereafter, generally had a adverse effect on the said morphology.

This is confirmed by current example 8 which now becomes a comparative example and by the text on page 12, lines 20-22 of the specification ("the presence of hexane (phase separation agent) at the time of phase inversion also has an adverse effect on the quality of the PVC particles obtained - Example 8 relative to Example 5"), describing the use of "MWH" (MEK (solvent), water (non-solvent) and hexane (phase separation agent) (see page 11, line 25 of the specification)). Indeed, as shown in the table presented on page 13 of the specification, the average diameter ratio of the polymer particles (D_{av}) obtained in Example 8 (501 μm) is larger than the one obtained for the polymer particles obtained in Example 5 (375 μm) leading to a ASG (apparent specific gravity)/ D_{av} ratio which is lower for Example 8 (1.25) than for Example 5 (1.8).

Referring to the text of Vandenhende, it is clear that this invention related to a process for recycling a plastic according to which the plastic is brought into contact with a solvent capable of dissolving the same and the plastic dissolved in the solvent is precipitated using a non-solvent in the presence of a phase-separating agent (see the abstract of Vandenhende).

The examples of Vandenhende are describing either a one-step process using a solution of solvent (MEK), non-solvent (water) and phase-separating agent (hexane) (examples 3-10) or a closed looped process using the same mixture of solvent (MEK), non-solvent (water) and phase-separating agent (hexane) (examples 1-2), but in any case, a phase-separating agent (hexane) is present in large quantity at the time of phase inversion which occurs during the injection of the non-solvent (water) part in liquid form and part in vapor form.

Furthermore, Vandenhende does disclose nor suggest to control the introduction of the non-solvent so that it is first introduced in liquid form and in a determined quantity such that the phase inversion is not reached and so that it is subsequently introduced as a flow in which the vapour fraction is predominant, the process according to the applicant's application requires further that in case a phase separating agent is used, the solution of polymer to be precipitated is substantially free of this phase separation agent at the time of phase inversion, what is not at all disclosed nor suggested in Vandenhende. For the above reasons, these rejections should be withdrawn.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 05129-00116-US from which the undersigned is authorized to draw.

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Respectfully submitted,

Electronic signature: /Ashley I. Pezzner/
Ashley I. Pezzner
Registration No.: 35,646
CONNOLLY BOVE LODGE & HUTZ LLP
1007 North Orange Street
P. O. Box 2207
Wilmington, Delaware 19899-2207
(302) 658-9141
(302) 658-5614 (Fax)
Attorney for Applicant